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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/760,334	01/20/2004	Andrew J. White	65445-086	2769

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DYKEMA GOSSETT PLLC
39577 WOODWARD AVENUE
SUITE 300
BLOOMFIELD HILLS, MI 48304-5086

EXAMINER	
HOOK, JAMES F	

ART UNIT	PAPER NUMBER
3754	

MAIL DATE	DELIVERY MODE
12/24/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/760,334	WHITE, ANDREW J.	
	Examiner	Art Unit	
	James F. Hook	3754	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11/24/08*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *59-67* is/are pending in the application.

4a) Of the above claim(s) *64 and 65* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *59-63, 66, and 67* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Newly submitted claims 64 and 65 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: the claims set forth subject matter that was in non elected species of figure 2, and the original election is to be maintained in Requests for Continued Examination, therefore these claims are drawn to a non-elected species.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 64 and 65 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 59-63 and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Markwart in view of Meinz and the teachings of Thompson. The reference to Markwart discloses the recited accumulator comprising a housing 10, a first chamber 30 charged higher than ambient pressure with a gas, a second chamber 54 also having a

volume, where the volume of one chamber changes with a pressure change in one of the chambers due to their operative communication via a divider formed as a rod 16, where as one chamber volume contracts the other expands, the first chamber has a pre-selected internal pressure, the divider does not enter either the first or second chamber, and the second chamber is responsive to changes in ambient pressure and adjusts an accumulator working pressure with respect to the ambient pressure. The use of a liquid in the first chamber is considered merely a choice of mechanical expedients where one skilled in the art would only require routine experimentation to arrive at the optimum fluid used as such is merely a choice of mechanical expedients. The reference to Markwart is provided with seals around pistons 12 and 14 to form the sealed first and second chambers, however, fails to disclose using first and second metal bellows to form the hermetic seals of the first and second chambers. The patent to Meinz discloses that it is old and well known in the art to provide a chamber provided with duel pistons 11,12 connected by a bar 13 can be provided with a sealing structure in the form of a bellow structure 2,8 formed of welded seam metal bellows to create the chambers 4,17 and hermetically seal the chambers. The patent to Thompson discloses that it is old and well known in the art to provide pistons with bellows connected thereto to replace seal structures on the pistons, thereby providing motivation to make the combination of Meinz with the reference to Marsh. It would have been obvious to one skilled in the art to modify the pistons in Markwart by substituting a sealing structure in the form of a metal bellows structure with welded seams in place of the seals on the pistons as suggested by Meinz where such will reduce the drag on the pistons thereby

improving the functioning of the accumulator and saving money by reducing drag as taught by Thompson.

Claims 59-63, 66, and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deul in view of Meinz and the teachings of Thompson. The patent to Deul discloses the recited hermetically sealed pressure balanced accumulator comprising a housing 34,38, a movable divider 52 formed as a pin connecting two pistons 48,50 which form hermetic seals via seals provided in grooves in the pistons to create four chambers, where chamber 42 is a gas charged chamber, chamber 46 which fills from pressurized fluid from the hydraulic system, chamber 44 filled by ambient pressure fluid, and a chamber 37 which can be a vacuum, where the three chambers 42, 44, and 37 form balancing chambers. The patent to Deul discloses all of the recited structure with the exception of utilizing a pressurized liquid in the third chamber, providing the first chamber with a gas each of specific pressures, and providing bellows structure to the pistons. It is considered merely a choice of mechanical expedients to substitute one type of pressured fluid for another where it is old and well known in the art to substitute liquids and gases for one another in accumulators to achieve specific pressure requirements where such would only require routine skill in the art to modify the fluids used in Deul to be either liquid or gas of any pressure as such would only require routine skill in the art to use routine experimentation to arrive at optimum working values. The patent to Meinz discloses that it is old and well known in the art to provide a chamber provided with duel pistons 11,12 connected by a bar 13 can be

provided with a sealing structure in the form of a bellow structure 2,8 formed of welded seam metal bellows to create the chambers 4,17. The patent to Thompson discloses that it is old and well known in the art to provide pistons with bellows connected thereto to replace seal structures on the pistons, thereby providing motivation to make the combination of Meinz with the reference to Deul. It would have been obvious to one skilled in the art to modify the pistons in Deul by substituting a sealing structure in the form of a metal bellows structure with welded seams in place of the seals on the pistons as suggested by Meinz where such will reduce the drag on the pistons thereby improving the functioning of the accumulator and saving money by reducing drag as taught by Thompson.

Claim 66 is rejected under 35 U.S.C. 103(a) as being unpatentable over Markwart in view of Meinz and Thompson as applied to claims 59-63 and 67 above, and further in view of Deul. The reference to Markwart as modified discloses all of the recited structure with the exception of providing the second chamber with a less than ambient pressure. It would have been obvious to one skilled in the art to modify the second chamber in Markwart as modified to be provided with a vacuum which is less than ambient pressure as such is an equivalent pressure used in a chamber opposite a gas charged chamber in a similar accumulator structure as set forth by Deul where such would is an equivalent setup for the accumulator to use in liquid systems dealing with ambient pressure.

Response to Arguments

Applicant's arguments filed November 24, 2008 have been fully considered but they are not persuasive. With respect to the teachings of Meinz such is merely used to disclose the used of a metal bellows to form a hermetically sealed chamber in an accumulator system. The reference to Thompson merely teaches that it is old and known to use bellows structures to form sealed chambers in accumulators that normally used a piston with seals structure. Since Meinz is being used to teach using a metal bellows structure to form hermetically sealed chambers in an accumulator that is the equivalent of using seals on a piston in an accumulator as taught by Thompson, then it does not matter where the rod in Meinz passes. The base references teach the rod not entering the first or second chambers, and as taught by Meinz a seal can be replaced on a piston with a bellows structure that extends from the piston to the end wall wherever a seal is provided on a piston.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references to Kelso, Uhrich, Taylor, and Runkel disclosing state of the art accumulator structures.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James F. Hook whose telephone number is (571) 272-4903. The examiner can normally be reached on Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Shaver can be reached on (571) 272-4720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James F. Hook/
Primary Examiner, Art Unit 3754

JFH